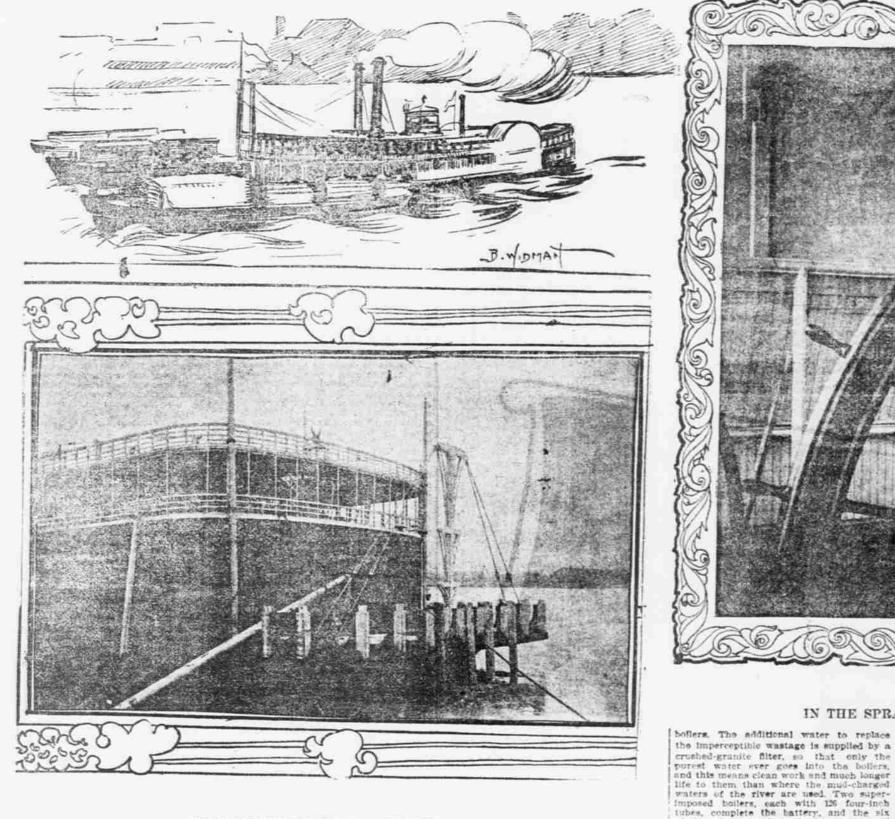
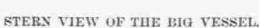
# TOWBOAT SPRAGUE, LARGEST IN THE WORLD, IS A TRIUMPH FOR DUBUQUE SHIP MECHANICS.

Soft Coal Combine of Pittsburg Preparing to Fight the Oil Burners in Southern Territory-Most Opulent of the Minor Trusts-Signs of a Prodigious Increase of Steel Vessel Building for Coal, Grain and Oil Transportation on the Mississippi and Ohio Rivers.







Bhat—Sprague, most powerful in Western waters.

Quantum Monongabels Coal and Coke Company, otherwise the Coal Trust.

Master to Be—Captain Venzey, now commanding the Jos. T. Williams, the next biggest towhoat.

Type—Low-pressure, all steel, non-inflammable for in all lower works, 5 feet draft, 13 feet long, 64 in all lower works, 5 feet draft, 13 feet long, 64 in all lower works, 5 feet draft, 13 feet long, 64 in all lower works, 5 feet draft, 13 feet long, 65 in all lower works, 5 feet draft, 13 feet long, 65 in all lower works, 5 feet draft, 13 feet long, 65 in board. The men crowded to one side to be described by 60 feet; 5 nigger chapters, rousters will have luxurious cabin, perceight butth and sleetic lights.

high side getting dry and superheating their steam by redhot flues.

This, old-timers will regall, was the dause of the most destructive steamboat disaster in the history of Western river navigation—the explosion at the foot of in all lower works, 5 feet draft, 13 feet long, 65 in all lower works, 5 feet draft, 13 feet long, 65 in all lower works, 5 feet draft, 13 feet long, 65 in all lower works, 5 feet draft, 13 feet long, 65 in all lower works, 5 feet draft, 13 feet long, 65 in all lower works, 5 feet draft, 13 feet long, 65 in all lower works, 5 feet draft, 13 feet long, 65 in all lower works, 5 feet draft, 13 feet long, 65 in all lower works, 5 feet draft, 13 feet long, 65 in all lower works, 5 feet draft, 13 feet long, 65 in all lower works, 5 feet draft, 13 feet long, 65 in all lower works, 5 feet draft, 13 feet long, 65 in all lower works, 5 feet draft, 13 feet long, 65 in all lower works, 5 feet draft, 13 feet long, 65 in all lower works, 5 feet draft, 13 feet long, 65 in all lower works, 5 feet draft, 13 feet long, 65 in all lower works, 5 feet draft, 13 feet long, 65 in all lower works, 5 feet draft, 13 feet long, 65 in all lower works, 5 feet draft, 13 feet long, 65 in all lower works, 65 in all lo Bust-Sprague, most powerful in Western was high side getting dry and superheating generators as any ocean vessel. There is but one other steamer on the Missirsippi

fact wide over all; wheel 40 by 40 feet; 8 nigger engines; rousters will have luxurious cabin, por-celain baths and electric lights. Hullder-lows from Works; William Kinross, late of Glasgow, superintendent, inspector for the trust and to be chief engineer, William M. Bryan of Fittsburg.

WRITTEN FOR THE SUNDAY REPUBLIC. The big Ceni Trust towboat, Sprague, now fitting out at the Levee above the Ends bridge, is an object lesson of great interest to St. Louisans of a practical or an inven tive turn. Many persons are day by day lining the great stone-paved slope, which was in earlier times the town's chief glory. to look upon what may be seen from the shore of this mammeth and peculiarly upto-date vessel. The number, indeed, who would inspect the Sprague at close range is so great that the men in charge have had to deny the public admission to her deck altogether, except by special request.

As a more speciacle, the Sprague is worth a trip to the Leves to see, but the vessel carries a much desper interest to those who take into account the conditions of St. Louis as a manufacturing center. It is something that gives thinking men some-

thing more to study about.

This splendid example of marine construction comes from a little city 450 miles to the river, less than one-tenth the size of St. Lends. With the exception of the wheel shaft every stroks of work on the Sprague was done at Dubuque, from the takek stem plains that will split the water, tank stem plains: that will split the water, when she gets going, to the husiles carrying the four balanced steel rudders, which, like many another silent and unseen power that control great desimy, will govern the viscis future course. As an illustration of what may be done by enterprise, well directed, the Sprague is monumental. It is the third and greatest undertaking of the lowa from Works, in the way of ship building. The United States torpedo-boat descroyer Ericson, and the revenue cutter Windom were the earlier products—both successful vessels of their class.

The Sprague's machinery is her most im-

The Spragne's machinery is her most impertant feature of interest. It is, in fact, a revenition to even the visitor, who is exa retaintion to even the visitor, who is experiodiced in such things. The engines are
the largest ever put upon a Western river
bust, with the possible exception of those
of the bug law-pressure passenger steamer.
Thompson Dean installed at Cincinnati
Same thirty years ago. They are of the
tandem compound type, twelve feet stroke,
with 25 luch diston head in the high-pressure cy inder, and a bore of skry-three
inches for the low-pressure one.
Uncle Cylinder Sourced.

### Each Cylinder Served

by a Surface Condenser. These great cylinders alone, standing upon over thirty feet space on the cylinfor beams, are an object of amazement to the casual observer. Each low-pressure cylinder is served by a surface condenser containing 1,780 small tubes, which will make a vacuum of twenty-two pounds to the square inch on a basis of 179 pounds high pressure, or a pull of fifty-seven tons, Add to this a push or kick of fifty-five tons on the high-pressure piston-head, and one rains a fair idea of the dynamic force ex-erted by one of these engines—a total of all tons communicated direct to the crankshaft of the wheel each half revolution. Double this for the complete revolution, and double this total again for the other engine, and you have a weight of 445 tons applied to the cranks for each revolution of the wheel. The wheel will make fifteen revolutions a minute.

The shaft to which this immense twisting power is applied is 47 feet long, 31 inches diameter in the center, 29 inches at the crank facings, and weighs \$2,000 pounds. The cranks weigh seven tons each, and the eight flanges which carry the wheelarms weigh 5,500 pounds each. The wheel itself is 40 feet high by 40 feet length of

To supply steam to these engines, and also to the twenty-five other engines which comprise the vessel's machinery comple-ment, six batteries of boilers of the Scotch marine type are mounted forward.

Three-Boiler Batteries

on the other side run partly dry and blew up from these uncontrollable ethers of Crushed-Granite Filter burning steam, which no engineer has ever been able to define, and which no boller is strong enough to hold.

Insures Clean Water for Boiler.

of these batteries form the heart that will give pulsation to the vast mechanisms astern. They are all built so as to be easily convertible for oil-burning, instead of hard fuel, should that be desired. No. St.

Louis foundryman should miss the chance to inspect this medel outfit for his own improvement. The boat will be here about two months. The aim is to get her to Louis-ville for the fall coel run, which begins

boflers. The additional water to replace

crushed-granite filter, so that only the

life to them than where the mud-charged

the imperceptible wastage is supplied by a

The condensers of the low-pressure cylstrong enough to hold.

The condensers of the low-pressure cylinder supply clear heated water back to the
pliances for the health and comfort of the Coal and Coke Company somewhat more
two of the great Monongahela out

and the other officers, both of which are fitted up with considerable elegance. This towboat's general equipment includes eight "nigger" engines, a powerful electric searchlight, capable of throwing a cope of illumination more than half a mile; a com plete cold-storage plant, an electric-light plant and a modern steam steering gear.

IN THE SPRAGUE'S PILOT-HOUSE. THE WHEEL IS THIRTEEN FEET IN DIAMETEL.

### Vessel Will Cost More Than

Two Hundred Thousand Dollars. The twenty-seven steam engines are as fol-

ows: Two main engines, two blowers for forced draft in furnaces, eight "niggers," one steering gear, one shipping-up engine for reversing main engines, one lever-shipping engine (additional), one electric-light The Sprague is the only vessel on the plant, two "doctors," two circulators for Western waters, if not in the world, whose condenser, three steam pumps for filter roustabouts will bathe in porcelain bathtubs, and turn in or read in their off-waters by electric light. A fine cabin is watches by electric light. A fine cabin is provided for the men, with comfortable accident.

The Sprague will cost the Monongabela New that the trust has charge of all but oil companies.

than \$200,000. She will take a fleet of fifty | economies in general management and the coal barges from Laufaville to the Lower Mississippi. Each boat carries 25,000 bushels. The coal star's at Pittsburg worth 5 cents a bushel. The sugar planters of Lou-Islana pay 15 cents for it, and sometimes more—an increase by towing 1,900 miles of \$2,500 a barge for the trust, or \$125,000 for

#### Coal Combine's Fleet Includes Eighty Towboats.

The trust has eignly towboats, great and mall, many of which are on the Monongahela and the Upper Ohio.

The big ones, like the Sprague, the Jos Williams and the O'Nefil, seldom, if ever, get above Louisville. They make from six are in to rine trips a year and each clears for the to rine trips a year and each clears for the covers considerably more than her entire should not have been built in St. Louis, cost every season. In the last twenty-five and none why a great line of his-grade work should not be invited and wears more than sixty fortunes in seven years more than sixty fortunes in seven figures have been made for Pittsburg shippers.

seiling service at Baton Rouge, New Orleans and other points of distribution will greatly enhance the already prodigious profits of the Pennsylvania soft coal barons,

The fight is now on between this company and the new Texas and Louisiana oil fields. Many planters have already converted their furnaces into oil burners to escape the galling Pittsburg coal monopoly. Some plantations burn as much as 10,000 tons in a year, and the saving of a dollar, or even fifty cents, a ton by use of oil is an important factor. The goal men are preparing to meet this new peril to their interests, and this magnificent \$200.000 towing vessel is the first of the bold and enterprising measures the have adopted. Others, doubtless,

established here from the ever-widening demand for such work from the coal and

EDSON BRACE

# PIKE COUNTY FARMERS TRADE BY LONG-DISTANCE TELEPHONE

Lines Centering at Louisiana, Mo., Enable Rural Subscribers to Transact Business With Facility or Discuss the Important News of the Hour.



Special Correspondence of The Sunday Republic.

Louisiana, Mo., July 5—The accomplishments of the long-distance telephone have ceased to cause wonder, but the rapidity with which the telephone is fast becoming the rule with which the telephone is invading the rule rural districts is remarkable.

the more convenient the farmer finds speaking communication with his neighbors and his rading point. Expense is so slight that the telephone is fast becoming the rule at the telephone was H. V. P. Block of Aberdeen. He has a splendid country home, on the gravel road, twelve miles south of here.

The first farmer in this country to put in a telephone was H. V. P. Block of Aberdeen. He has a splendid country home, on the gravel road, twelve miles south of here.

Each battery consists of three boilers and is independent of the others, so that should the vessel be unevenly loaded there will be no danger of the boilers on the the beginning of the present century is complete with the beginning of the present century is complete without a chapter on "The Farmer and the Telephone."

Owing to the fertility of the soil, which

The first farmer in this county to put in a telephone was H. V. P. Block of Aber-deen. He has a splendid country home, on the gravel road, twelve miles south of here. When a telephone system was installed in this city, twenty years ago, Mr. Block be-

in this city was owned by a foreign cor-poration, which did not encourage country lines.

Soon Mr. Ruffum began to build lines his own along the gravel roads, and as is independent of the others, so that should the vessel be unevenly leaded there will be no danger of the bollers on the soll, which the soll, which the soll, which the soll ines.

As soon as the home company, directed the farmhouse. The more remote his location the farmhouse. The more remote his location the soll, which the soll ines.

As soon as the home company, directed the farmer of Pike County prospersion to the soll, which the soll ines.

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This system was extended, until it now consists of more than 400 miles of wire, on which are forty-one toil stations in Pike, Lincoln. Audrain, Montgomery, Callaway, come and Ralls counties, including several hundred farmhouses. An exchange has been established at Clarksville. The company was recently granted a franchise at Frank-ford and Paynesville. When these lines' are completed, every Past Office in Pike (County will have telephone connection, and 55 per cent of the farmhouses along the Entium lines will have the service.

This system has a line south from here, along the gravel read to Chrksville, a distance of sixteen miles. On this line the following farmers have boxes and the privi-leges of the Louisiana exchange: James K. Price, J. I., Butts, L. F. Mackey, Joseph Zock, J. M. Duncen, Joseph Thurman, William Melbroy, Homer Elliett and Jovid Stark, who has a fine country home, known as "The Codurs."

E. C. Dauseren, the wealthy St. Louisan, who owns perhaps the finest country home in the State, two miles from Cariswille, has had a 'phone for some time. Mr. Dam-

eren's place consists of several hundred acres of valuable final.

Another line of the Futum system exterds south from Louisiana to Eolin, a dis-talce of sixteen miles, on this line are the homes of H. V. P. Block, C. J. McCone and

William Meriwether, Running west this system has a line which traverses the county and extends into four other counties. Between Louisiana and Bowing Green the following farmers have boxes on this line; Bell Smith, Frank Stuart, David Hetrich, Chris Muff, Ambrose Beckrer, Curtis Smith, Joseph Raufer, Joseph Runsell, O. M. Fry, M. Freels, John Beckner, John Wilson and M. R. Helliday. Beckner, John Wilson and M. R. Holliday.
Mr. Holliday has a well-improved farm. In
his house and burn is every convenience
possible in the country. Every stall in his
burn has running witer for the stock to
drink. The buildings are surrained on
three sides by high hills which protect from
the severy winds of winter.

There are also ten other lines owned by the Buffum system, which will accommodate about he more farmers between Louisi-

ara and Bowling Green.
From Louisiana south there is a line to Ashburn, which will seen be extended to Hannibal. On this line are B. Hufford, R. D. Love and Al Resemberg. Running northb. Love and Al Rosenberg, Running north-west is the line to Frankford, which don-nects the homes of James Fleets, I. N. Bryson, M. B. Richards, Mrs. G. Richmond, T. T. Wells, Joe Smith, Charles Reading, John Eider, Mrs. Martha Carroll, W. E. Holliday, William Reseling Thomas Read-ing, J. W. Rale, Richard Hawkitts, T. J. and Oresics, N. Res. and Charles Nalley of the Nalley-Wells Commission Company of St. Louis and S.

Ande from its value to individuals, the elephone system in Pike County, it is useful to the public in many ways. Wenther reports are obtained each day by telegraph and commutablisted to subscribers. Damage is often averted by the warnings thus given, News of importance is given out by buffetins in the same way. During the Spanish War Mr. Buffum obtained bulletins direct from the floor of the House of Representatives,
When President McKinley was shot sub-

scribers were immediately notified of the fact. Pike County election returns are known at every point on the Louisiana line within a few minutes after the polls close. E. E. CAMPBELL.

Far From It.

"Just because a man parts his hair in the middle." remarked the janitor philosopher, "Is no reason why he has a well balanced head."

Too Fast for the Town. Hewitt: "Poor Gruet was refused admis-sion to a Philadelphia hospital." Jewett: "For what reason?" Hewitt: "He had gailcoing consumption."